

Amendment and Response

Applicant: Thomas A. Saksa
Serial No.: 09/940,363
Filed: August 27, 2001
Docket No.: 10011180-1
Title: MEASUREMENT AND MARKING DEVICE

REMARKS

The following remarks are made in response to the Non-Final Office Action mailed August 27, 2002, in which claims 1-29 were rejected. With this Amendment, claims 10, 11, 17, and 26 have been cancelled without prejudice and claims 1, 12, 14, 22, and 23 have been amended to more particularly point out and distinctly claim the subject matter which Applicant regards as the invention. Claims 1-9, 12-16, 18-25, and 27-29, therefore, remain pending in the application.

Drawings

The drawings are objected to as failing to comply with 37 C.F.R. 1.84(p)(5) because they do not include reference signs mentioned in the description. More specifically, the drawings are objected to because they do not include reference number 30' indicated on page 7, line 26 of the specification.

Accompanying this Amendment is one sheet of drawings with a proposed drawing change to Figure 4, as indicated in red. In Figure 4, reference number 30' has been added as described in the specification at, for example, page 7, line 26. No new matter is entered with this proposed drawing change.

With this Amendment, Applicant has submitted a substitute sheet of formal drawings for Figure 4 with the proposed change incorporated therein. Applicant requests that this proposed drawing change be considered and approved, and that the objection to the drawings under 37 C.F.R. 1.84(p)(5) be reconsidered and withdrawn.

In addition, accompanying this Amendment is one sheet of drawings with a proposed drawing change to Figure 3, as indicated in red. In Figure 3, reference number 30 has been added as described in the specification at, for example, page 7, line 12. No new matter is entered with this proposed drawing change.

With this Amendment, Applicant has submitted a substitute sheet of formal drawings for Figure 3 with the proposed change incorporated therein. Applicant requests that this proposed drawing change be considered and approved.

Amendment and Response

Applicant: Thomas A. Saksa
Serial No.: 09/940,363
Filed: August 27, 2001
Docket No.: 10011180-1
Title: MEASUREMENT AND MARKING DEVICE

Specification

The specification has been objected to because of informalities. More specifically, the specification has been objected to because the Examiner contends that the language "example embodiments of positional sensing assembly 30 are described below with reference to Figures 3 and 4" at page 5, lines 21-22 is confusing because reference number 30 is not in either Figure 3 or Figure 4.

With this Amendment Applicant has amended the paragraph at page 5, lines 14-22 to remove reference to reference number 30 in line 21. Applicant, therefore, respectfully requests that the objection to the specification be reconsidered and withdrawn.

Claim Objections

Claims 7, 8, and 27 have been objected to because of informalities. More specifically, claims 7, 8, and 27 have been objected to because of the phrase "at least one of graphics and text".

Applicant submits that the phrase "at least one of graphics and text" is clear and that the phrase "at least one of graphics and text" follows conventional claiming practices and is intended to include printing of graphics or text or graphics and text. As such, Applicant submits that the scope of claims 7, 8, and 27 is clear. Applicant, therefore, respectfully requests that the objection to claims 7, 18, and 27 be reconsidered and withdrawn.

Claim 23 has been objected to because of informalities. More specifically, claim 23 has been objected to because the Examiner contends that it is unclear as to what is meant by the phrase "a dimension to and a dimension of" in lines 4-5 and 7-8.

With this Amendment, claim 23 has been amended to clarify that the step of locating the feature of the first object includes measuring at least one of a dimension to the feature of the first object and a dimension of the feature of the first object, and that the step of printing the mark on the surface of the second object includes printing the mark on the surface of the second object when the position of the housing relative to the second object coincides with the at least one of the dimension to the feature of the first object and the dimension of the feature of the first object. As such, Applicant submits that the scope of claim 23 is clear. Applicant, therefore, respectfully requests that the objection to claim 23 be reconsidered and withdrawn.

Amendment and Response

Applicant: Thomas A. Saksa

Serial No.: 09/940,363

Filed: August 27, 2001

Docket No.: 10011180-1

Title: MEASUREMENT AND MARKING DEVICE

Claim Rejections under 35 U.S.C. § 102 and 35 U.S.C. § 103

Claims 1-6, 8-17, 19-26, and 28-29 are rejected under 35 U.S.C. 102(b) as being anticipated by the Coulter et al. U.S. Patent No. 4,233,749. Claims 7, 18, and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over the Coulter et al. U.S. Patent No. 4,233,749 in view of the Weber et al. U.S. Patent No. 4,412,232.

With this Amendment, independent claim 1 has been amended to clarify that the housing has a first side adapted to be oriented substantially parallel with the surface of the object as the housing is moved along the surface of the object and that the positional sensing assembly and the printhead assembly communicate with the first side of the housing, and independent claims 14 and 22 have been amended to clarify that moving the housing includes orienting a first side of the housing substantially parallel with the surface of the object, that sensing the position of the housing includes sensing a position of the housing relative to the object with a positional sensing assembly mounted in and communicated with the first side of the housing, and that printing the measurement marking includes printing the measurement marking on the surface of the object with a printhead assembly mounted in and communicated with the first side of the housing.

With respect to the Coulter et al. patent, this patent does not teach or suggest a measurement and marking device, as claimed in claim 1, wherein the housing has a first side adapted to be oriented substantially parallel with the surface of the object as the housing is moved along the surface of the object, and wherein the positional sensing assembly and the printhead assembly communicate with the first side of the housing, nor a method of printing a measurement marking on an object, as claimed in claim 14, or a method of transferring a measurement, as claimed in claim 22, wherein moving the housing includes orienting a first side of the housing substantially parallel with the surface of the object, sensing the position of the housing includes sensing a position of the housing relative to the object with a positional sensing assembly mounted in and communicated with the first side of the housing, and printing the measurement marking includes printing the measurement marking on the surface of the object with a printhead assembly mounted in and communicated with the first side of the housing.

Amendment and Response

Applicant: Thomas A. Saksa

Serial No.: 09/940,363

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Docket No.: 10011180-1

Title: MEASUREMENT AND MARKING DEVICE

In view of the above, Applicant submits that independent claims 1, 14, and 22 are patentably distinct from the Coulter et al. patent and, therefore, in a condition for allowance. Furthermore, as dependent claims 2-9, 12, and 13 further define patentably distinct claim 1, dependent claims 15, 16, and 18-21 further define patentably distinct claim 14, and dependent claims 23-25 and 27-29 further define patentably distinct 22, Applicant submits that dependent claims 2-9, 12, 13, 15, 16, 18-21, 23-25, and 27-29 are also in condition for allowance. Applicant, therefore, respectfully requests that the rejection of claims 1-6, 8, 9, 12-16, 19-25, 28, and 29 under 35 U.S.C. 102(b) and claims 7, 18, and 27 under 35 U.S.C. 103(a) be reconsidered and withdrawn and that claims 1-9, 12-16, 18-25, and 27-29 be allowed.

CONCLUSION

In view of the above, Applicant respectfully submits that pending claims 1-9, 12-16, 18-25, and 27-29 are all in condition for allowance and requests reconsideration of the application and allowance of all pending claims.

Attached hereto is a marked-up version of the changes made to the specification and/or the claims by the current Amendment. The attached pages are captioned "**VERSION WITH MARKINGS TO SHOW CHANGES MADE**".

Any inquiry regarding this Amendment and Response should be directed to Gregg Wisdom at Telephone No. (360) 212-8052, Facsimile No. (360) 212-3060. In addition, all correspondence should continue to be directed to the following address:

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Amendment and Response

Applicant: Thomas A. Saksa
Serial No.: 09/940,363
Filed: August 27, 2001
Docket No.: 10011180-1
Title: MEASUREMENT AND MARKING DEVICE

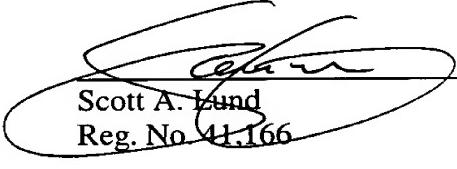
Respectfully submitted,

Thomas A. Saksa,

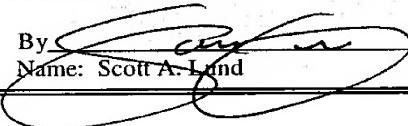
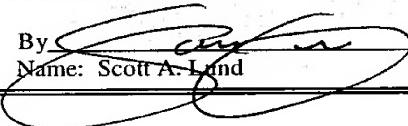
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CERTIFICATE UNDER 37 C.F.R. 1.8: The undersigned hereby certifies that this paper or papers, as described herein, are being deposited in the United States Postal Service, as first class mail, in an envelope address to: Commissioner for Patents, Washington, D.C., 20231 on this 12th day of November, 2002.


By 
Name: Scott A. Lund

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Thomas A. Saksa

Examiner: Amy R. Cohen

Serial No.: 09/940,363

Group Art Unit: 2859

Filed: August 27, 2001

Docket No.: 10011180-1

Title: MEASUREMENT AND MARKING DEVICE

AMENDMENT AND RESPONSE

O I P E
NOV 18 2002
PATENT & TRADEMARK OFFICE
Commissioner for Patents
Washington, D.C. 20231

Dear Sir/Madam:

This Amendment and Response is in reply to the Non-Final Office Action mailed on August 27, 2002. Please amend the above-identified patent application as follows:

IN THE SPECIFICATION

Please replace the paragraph at page 5, lines 14-22 with the following rewritten paragraph:

Positional sensing assembly 30 senses a position of measurement and marking device 10 and, more specifically, a position of housing 20 relative to object 12 as housing 20 is moved along surface 14 of object 12. As such, positional sensing assembly 30 measures a dimension of object 12 as housing 20 is moved relative to object 12. Positional sensing assembly 30 measures a dimension of object 12 by, for example, comparing a first position of housing 20 relative to object 12 with a second position of housing 20 relative to object 12. Example embodiments of a positional sensing assembly 30 are described below with reference to Figures 3 and 4.

IN THE CLAIMS

Please cancel claims 10, 11, 17, and 26 without prejudice.

Please amend claims 1, 12, 14, 22, and 23 as follows:

1. (Amended) A measurement and marking device, comprising:
a housing;

VERSION WITH MARKINGS
TO SHOW CHANGES MADE

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Amendment and Response

Applicant: Thomas A. Saksa
Serial No.: 09/940,363
Filed: August 27, 2001
Docket No.: 10011180-1
Title: MEASUREMENT AND MARKING DEVICE

a positional sensing assembly mounted in the housing and adapted to sense a position of the housing relative to an object as the housing is moved along a surface of the object;

a printhead assembly mounted in the housing and adapted to print on the surface of the object as the housing is moved along the surface of the object; and

a controller mounted in the housing and communicating with the positional sensing assembly and the printhead assembly, wherein the controller is adapted to operate the printhead assembly to print a mark on the surface of the object based on the position of the housing relative to the object as the housing is moved along the surface of the object,

wherein the housing has a first side adapted to be oriented substantially parallel with the surface of the object as the housing is moved along the surface of the object,

wherein the positional sensing assembly and the printhead assembly communicate with the first side of the housing.

2. The measurement and marking device of claim 1, wherein the positional sensing assembly is adapted to sense a position of the housing relative to a first object and measure a dimension of the first object as the housing is moved along a surface of the first object, wherein the positional sensing assembly is adapted to sense a position of the housing relative to a second object as the housing is moved along a surface of the second object, and wherein the controller is adapted to operate the printhead assembly to print the mark on the surface of the second object based on the dimension of the first object and the position of the housing relative to the second object as the housing is moved along the surface of the second object.

3. The measurement and marking device of claim 2, further comprising:

a user interface mounted on the housing and communicating with the controller, wherein the user interface includes an input configured for operation by a user of the measurement and marking device,

wherein the controller is adapted to record the position of the housing relative to the first object when the input is operated by the user.

4. The measurement and marking device of claim 3, wherein the controller is adapted to operate the printhead assembly to print the mark on the surface of the second object based on

Amendment and Response

Applicant: Thomas A. Saksa
Serial No.: 09/940,363
Filed: August 27, 2001
Docket No.: 10011180-1

Title: MEASUREMENT AND MARKING DEVICE

the position of the housing relative to the first object when the input is operated by the user and the position of the housing relative to the second object as the housing is moved along the surface of the second object.

5. The measurement and marking device of claim 1, wherein the controller is adapted to operate the printhead assembly to print a plurality of markings on the surface of the object at predetermined intervals as the housing is moved along the surface of the object.

6. The measurement and marking device of claim 5, wherein the plurality of markings represent one of standard measurements and scaled measurements.

7. The measurement and marking device of claim 1, wherein the printhead assembly is adapted to print at least one of graphics and text on the surface of the object as the housing is moved along the surface of the object.

8. The measurement and marking device of claim 1, wherein the positional sensing assembly includes a wheel rotatably mounted in the housing, wherein the wheel is adapted to contact the surface of the object and rotate as the housing is moved along the surface of the object, and wherein the controller is adapted to determine the position of the housing relative to the object based on rotation of the wheel.

9. The measurement and marking device of claim 1, wherein the positional sensing assembly includes an optical sensor mounted in the housing, wherein the optical sensor is adapted to sense the surface of the object as the housing is moved along the surface of the object, and wherein the controller is adapted to determine the position of the housing relative to the object based on the surface of the object.

10. (Cancelled) The measurement and marking device of claim 1, wherein the housing has a first side adapted to be oriented substantially parallel with the surface of the object as the housing is moved along the surface of the object.

Amendment and Response

Applicant: Thomas A. Saksa

Serial No.: 09/940,363

Filed: August 27, 2001

Docket No.: 10011180-1

Title: MEASUREMENT AND MARKING DEVICE

11. (Cancelled) ~~The measurement and marking device of claim 10, wherein the printhead assembly communicates with the first side of the housing.~~

12. (Amended) ~~The measurement and marking device of claim 11, wherein the printhead assembly includes a plurality of orifices formed in a front face thereof, wherein the front face communicates with the first side of the housing.~~

13. The measurement and marking device of claim 1, further comprising:
a power supply mounted in the housing, wherein the power supply supplies power to the measurement and marking device.

14. (Amended) ~~A method of printing a measurement marking on an object, the method comprising the steps of:~~

~~moving a housing along a surface of the object, including orienting a first side of the housing substantially parallel with the surface of the object;~~

~~sensing a position of the housing relative to the object with a positional sensing assembly mounted in and communicated with the first side of the housing; and~~

~~printing the measurement marking on the surface of the object with a printhead assembly mounted in and communicated with the first side of the housing when the position of the housing relative to the object corresponds to a predetermined position.~~

15. The method of claim 14, wherein the step of printing the measurement marking on the surface of the object includes printing a plurality of measurement markings on the surface of the object at predetermined intervals.

16. The method of claim 15, wherein printing the plurality of measurement markings includes printing one of a plurality of standard length units and a plurality of scaled length units on the surface of the object.

Amendment and Response

Applicant: Thomas A. Saksa

Serial No.: 09/940,363

Filed: August 27, 2001

Docket No.: 10011180-1

Title: MEASUREMENT AND MARKING DEVICE

17. (Cancelled) ~~The method of claim 14, wherein the step of printing the measurement marking on the surface of the object includes printing the measurement marking with a printhead assembly mounted in the housing.~~

18. The method of claim 14, wherein the step of printing the measurement marking on the surface of the object includes printing at least one of graphics and text on the surface of the object.

19. The method of claim 14, further comprising the step of:
receiving and storing the predetermined position of the housing for printing the measurement marking at a controller mounted within the housing.

20. The method of claim 14, wherein the step of moving the housing along the surface of the object includes contacting the surface of the object with a wheel rotatably mounted in the housing and rotating the wheel relative to the housing, and wherein the step of sensing the position of the housing includes determining the position of the housing relative to the object based on rotation of the wheel.

21. The method of claim 14, wherein the step of moving the housing along the surface of the object includes sensing the surface of the object with an optical sensor mounted in the housing, and wherein the step of sensing the position of the housing includes determining the position of the housing relative to the object based on the surface of the object.

22. (Amended) A method of transferring a measurement of a first object to a second object, the method comprising the steps of:
moving a housing along a surface of the first object, including orienting a first side of the housing substantially parallel with the surface of the first object;
sensing a position of the housing relative to the first object with a positional sensing assembly mounted in and communicated with the first side of the housing as the housing is moved along the surface of the first object;

Amendment and Response

Applicant: Thomas A. Saksa

Serial No.: 09/940,363

Filed: August 27, 2001

Docket No.: 10011180-1

Title: MEASUREMENT AND MARKING DEVICE

locating a feature of the first object, including recording the position of the housing at the feature of the first object;

moving the housing along a surface of the second object, including orienting the first side of the housing substantially parallel with the surface of the second object;

sensing a position of the housing relative to the second object with the positional sensing assembly as the housing is moved along the surface of the second object; and

printing a mark representing the feature of the first object on the surface of the second object with a printhead assembly mounted in and communicated with the first side of the housing when the position of the housing relative to the second object coincides with the position of the housing at the feature of the first object.

23. (Amended) The method of claim 22, wherein the step of sensing the position of the housing relative to the first object includes measuring a dimension of the first object, wherein the step of locating the feature of the first object includes measuring at least one of a dimension to the feature of the first object and a dimension of the feature of the first object, and wherein the step of printing the mark on the surface of the second object includes printing the mark on the surface of the second object when the position of the housing relative to the second object coincides with the at least one of the dimension to the feature of the first object and the dimension of the feature of the first object.

24. The method of claim 22, wherein the step of locating the feature of the first object includes receiving a user input at the position of the housing at the feature of the first object.

25. The method of claim 24, wherein recording the position of the housing at the feature of the first object includes storing the position of the housing at the feature of the first object with the user input in a controller mounted in the housing.

26. (Cancelled) The method of claim 22, wherein the step of printing the mark on the surface of the second object includes printing the mark on the surface of the second object with a printhead assembly mounted in the housing.

Amendment and Response

Applicant: Thomas A. Saksa

Serial No.: 09/940,363

Filed: August 27, 2001

Docket No.: 10011180-1

Title: MEASUREMENT AND MARKING DEVICE

27. The method of claim 22, wherein the step of printing the mark on the surface of the second object includes printing at least one of graphics and text on the surface of the second object.

28. The method of claim 22, wherein the steps of moving the housing along the surface of the first object and the surface of the second object each include contacting the surface of the first object and the surface of the second object with a wheel rotatably mounted in the housing and rotating the wheel, wherein the steps of sensing the position of the housing relative to the first object and the second object each include determining the position of the housing relative to the first object and the second object based on rotation of the wheel.

29. The method of claim 22, wherein the steps of moving the housing along the surface of the first object and the surface of the second object each include sensing the surface of the first object and the surface of the second object with an optical sensor mounted in the housing, and wherein the steps of sensing the position of the housing relative to the first object and the second object each include determining the position of the housing relative to the first object and the second object based on the surface of the first object and the surface of the second object, respectively.